The MAC Flyer
DECEMBER 1977
Season's Greetings
FROM THE STAFF OF
The MAC Flyer

MILITARY AIRLIFT COMMAND

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The MAC Flyer

For Greater Efficiency
in MAC Air Operations

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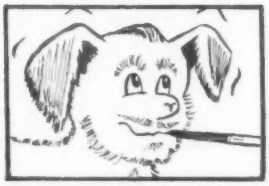
PAGE 7

PAGE 16



PAGE 24

CINCMAC's Christmas Message 3
A Ghost of Christmas Present 4
Prepare for Crash Landing 7
Simulators, Syndromes and Safety 9
Thin Margin for Error 13
Sweptwing Shadow 16
Mishap with a Moral 18
Deja Vu: Guantanamo Bay NAS 20
The Sage Brush 21
Here's to Your Health! 22
C.R. Terror 24
Quick Stoppers 27
The MAC Flyer 1977 Index 31

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CINCMAC's Christmas Message

Courtesy *Air Force Times*

As the Holiday season approaches and a new year is nearly upon us, I think it's a good time to look at where we've been and where we're going.

When I learned that I was to be your Commander in Chief, I was elated at coming back to the MAC family. You have sustained and validated that elation. Today's men and women of MAC are at the top of the finest I've commanded. I see great personal strength and devotion to duty, and I see a togetherness—an identification among MAC people—that any commander would hope to nurture. These things are not the result of some sort of magic or cosmic forces; they have evolved from years of *real* mission fulfillment, of rational and reasonable accomplishments. Your strength and devotion to duty make the Military Airlift Command one of the most significant deterrent forces in the free world today. Your skills are sustained and honed sharp by the Reforgers, the Team Spirits, the Brave Shields, the Sarexs, and the Bold Eagles.

In 1978 and beyond, we can expect to see more growth in our responsibilities as a working, exercising, contingency-capable, peacekeeping command. Dollar constraints may dictate that the responsibilities will be all that grow—and that we'll be doing more work with no large increases in our budget. I'm convinced that you will continue to do the job—to fly the channels, to rescue the hurt, to evac the sick, to provide the weather support, and to record the events.

I hope you are proud of being part of the MAC family—I am!

Thank you for all your hard work—the Air Force and America need you.

Mrs. Moore and I wish you a Christmas gift of peace and prosperity in the year to come.

William Gillmore

A GHOST OF CHRISTMAS PRESENT

by **Capt James P. Coe**
Associate Editor

He'd promised that nothing would keep him from spending Christmas with his family. It was a tough promise to keep.

There was the faint sound of laughter and a musical toy as Linda opened her eyes and saw John in his bathrobe, smiling.

"Brrrr. The floor sure is cold, Linda. Better get your slippers on, and let's get downstairs before the kids get all the presents unwrapped. I'll swear those kids get up earlier every Christmas."

"Hey, just in time. They're still playing with 'Santa's' toys."

"Huh? Yes, I'd love a cup of coffee and maybe a cinnamon roll, hot from the oven. I'll sit here and watch the kids open their gifts. What a haul! I had no idea there would be that much under the tree. Master Charge will get you for that, honey."

"Penny, that's a beautiful dress Grandmother Marcks sent you. And red really brings out those blue eyes. Another couple of years and we'll have to fight the boys off. Come and give ol' dad a hug."

"Well, that was quick. But I guess you have better things to do. Back to Santa's toys. Say, Chris, that's a nice football—professional size and all. It should last you for awhile. Maybe we can toss it around later. No, not now! Mom would kill us if we broke something."

"Sit over here, Linda. Open this one first. I had a hard time picking something out for you."

"I'm glad you like them. Pearls like that are hard to find."

"What do you mean, I know I shouldn't have? You're a good wife and mother—you've earned much more than a little string of pearls. Hey—you know I love you."

"Aw, don't fuss, Penny. I, er, Mom can put the doll buggy together later. I would have put it together earlier, but I got called for that trip Thursday afternoon. You know how my job is, sugar. Look at the beautiful doll Santa brought you."

"Well, anyway, honey, we just about didn't make it home for this Christmas at all. I had all kinds of problems with the darned airplane and some of my crew seemed to be dragging their feet all the way."

"You get the phone—I'll tell you about it later."

"Sure was nice of your sister to call from California. Figuring the time difference, her kids are up even earlier than ours."

"Oh, yeah, the airplane. Well, we were alerted in plenty of time to get home last night, but when we got to command post, they told us that the plane had hydraulic problems. We milled around base ops and the snack bar for quite awhile. They finally called and said the plane was fixed."

"Look at Chris. Y'know when I was ten I wouldn't have been

caught dead playing with anything that even looked like a doll. TV commercials sure have changed things; he's been wanting that G.I. Joe for months. The world of make-believe is a lot different than it used to be."

"Anyway, we got out to the airplane and Sergeant Stanton started his preflight. Jim and I looked over the forms. Maintenance had fixed a leaking brake swivel in the left wheel well. Everything else looked pretty good. Mike preflighted the nav gear, and Jim and I settled down to wait for the enlisted guys to finish."

"Oh, a cup of 'pretend' tea for Mom and Dad? Why, thank you, Penny."

"She really likes the tea set. You're good at picking things out for the kids."

"So, Sergeant Stanton tells us that he's not happy with the maintenance fix on the brake swivel. He thought they should have replaced it instead of just tightening it up. He said he thought it was still leaking. I took a look. The darned thing wasn't leaking that I could tell, but I called for a maintenance supervisor anyway.

"The super sergeant from maintenance agreed with me: the swivel looked good. Ol' Stan was still against taking the plane; but I knew the other guys wanted to get home, so we pressed on. And besides, I promised you and the kids . . ."

"Wow, look at the time! If we're every going to make it to church today we'd better get the kids moving."

* * *

"The kids really look nice, Linda. And I like that green dress. Here's the keys; you drive. I'm still pretty tired from such a short night."

"Things went okay till we were ready for takeoff. We had to wait about 15 minutes for our ATC clearance. We started our takeoff roll, but at about 100 knots the master caution and door-open lights came on, so I rejected. I didn't get on the brakes too hard. Sergeant Grimes told me that the left troop door showed unlocked. We taxied back to the ramp. I sure thought that we weren't going to get off at all. The loadmaster opened and closed the door; the light went out, so we taxied back for takeoff."

* * *

"I don't think I've ever heard the Christmas story told so well. Reverend Ballard really has a way with words. He caught the meaning of Christmas for me this year."

"Excellent sermon, Reverend. I enjoyed it. Thanks, and Merry Christmas to you too."

* * *

"I suppose I should come through on my promise to Chris and throw the football around a little. Well, okay, honey, I'll come help you in the kitchen and tell the rest of my story."

"Our second takeoff was normal: 'Gear up, flaps up, give me a cup of black coffee' and all that. We climbed to about 20,000 for the trip home. Just no reason to climb higher. By the time we leveled, Sergeant Grimes was asleep in the crew bunk.

"We headed northeast. It sure was a pretty evening. The setting sun turned the snow on the ground shades of pink and orange. It being Christmas Eve all the air traffic controllers were friendlier than usual and everybody wished us a Merry Christmas. I figured we'd make it home in plenty of time.

"About an hour after leveloff, Mike went to the back. He called up front a few seconds later; he was frantic. I couldn't really understand what he was saying. Sergeant Stanton bounded out of his seat and headed for the cargo compartment. I turned around and saw smoke starting to come into the flight deck and an orange glow

from the back. I told Jim to watch the aircraft while I got on oxygen. The quick-donning mask worked fine, and I told the rest of the crew to get on—''

The doorbell rang. Linda wiped her hands on her apron. ''I'll get it, love,'' she said, starting for the door.

Linda opened the door. ''Hello, Linda,'' stammered Capt David Coleman.

''Well, come in, Dave. Uh, Merry Christmas,'' she responded. ''What brings you out on a holiday?''

Dave hesitated, took a deep breath, and started, ''Linda, it's about John. I'm sorry . . . . ''

Linda turned to look across the hall into the kitchen where John had been sitting. She saw only the cold chrome and vinyl of the empty chair.

Penny emerged from the hallway with a stuffed animal under her arm. ''Where's Daddy?''

A New Gift Idea

For the person who has everything: something to cover it up with.

Christmas is a time for giving and a time for sharing. So give yourself a gift by sharing some of those experiences, ideas, words, or philosophies with other MAC aviators. The gift? A C.R. Terror T-shirt! What more could a fun-loving, thrill-seeking MAC crewmember want!

How do you share? Simple—merely write down your original, unpublished epic (we prefer typewritten, double spaced manuscripts) in two copies and identify it only by title. Then attach a cover sheet to each copy bearing your name and address (military, if applicable) and a short biographical sketch.

To be a contestant in the 1978 Flying Safety Writing Contest (and thereby qualifying for C.R.'s Countenance), your story should be between 1,000 and 3,000 words. That's about six to 14 typewritten pages. (Poetry, of course, will be shorter). There should be a fly-safe motive for your story and your entry must be postmarked by 31 Mar 78.

And that's not all—winners and honorable mentions will receive handsome wall plaques or desk sets attesting to their journalistic prowess. So hurry! Send your entry to:

The MAC Flying Safety Writing Contest
HQ MAC/IGFE
Scott AFB, IL 62225

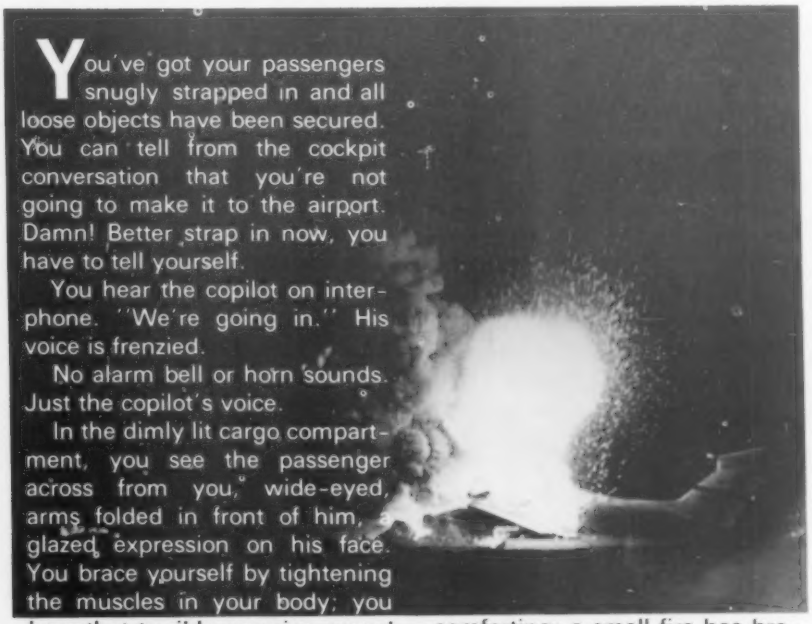
The moments between warning and impact won't be enough. Take time now to . . .

Prepare for Crash Landing

by **Burton P. Chesterfield**
MAC Systems Safety Engineer

and

Lt Col Orlen L. Brownfield
Supervising Editor



You've got your passengers snugly strapped in and all loose objects have been secured. You can tell from the cockpit conversation that you're not going to make it to the airport. Damn! Better strap in now, you have to tell yourself.

You hear the copilot on interphone. "We're going in." His voice is frenzied.

No alarm bell or horn sounds. Just the copilot's voice.

In the dimly lit cargo compartment, you see the passenger across from you, wide-eyed, arms folded in front of him, glazed expression on his face. You brace yourself by tightening the muscles in your body; you hear that terrible scraping sound as the aircraft belly contacts the ground, jarring the fillings in your teeth—this is it, you think.

But suddenly, the gnashing, tearing sounds cease as the aircraft becomes airborne again and your spirits soar. But respite is short-lived as you feel the bird sinking again. The nightmarish, raucous noise returns and you know that the aircraft is literally coming apart. The decelerative forces pull your body to the left and you curse the side-facing seats. An object (a B-4 bag?) whizzes by your head on a very flat trajectory toward the cockpit. The lights go out.

You shake your head; the scraping noise is gone. A dream? Then you hear the moans and cries of others in the cabin. You hear a barely audible "poof" and there is light. But it isn't comforting; a small fire has broken out and you know you have only minutes, perhaps seconds, to get your passengers out of the aircraft. You smell hydraulic fluid and JP-4; there is also the pungent odor of burning electrical wires.

Between 50 and 65 percent of those involved in past fire-related aircraft accidents survived. To say that the odds are the same in this situation would be conjecture—there are just too many variables. One of these variables is you—the loadmaster or aircrewmember who has the responsibility for postcrash evacuation. Your success will depend on lots of things—personal courage, knowledge, strength, stamina—sounds almost like the Scout Laws, huh? But the survival edge might belong to you, if you've simply *thought* about it—mentally prepared yourself for crash landing.

Honing Survival's Edge

Let's go back to the cabin of your wrecked aircraft; it has just come to rest, there's a small fire, and you smell some volatile odors. Experts tell us that you'll have about 60 seconds before your aircraft's hull turns into a burning inferno. In that first minute the fire spreads as fuel, hydraulic fluid, and oil spill or spray onto hot surfaces and small sustained fires. As the fires become larger and hotter the hull's thin aluminum skin will begin to melt. "Chimneys" are burned through the aircraft skin and the natural draft will cause the fire to spread rapidly. Most cabin interior materials such as wall trim panels, seat cushions, upholstery, and carpet will burn, producing toxic by-products and turning the cabin into a gas chamber as well as an oven.

It's easy to see that your passengers' best shot at survival is a rapid egress. With the aircraft at rest, impact damage can no longer be a consideration; with fire and smoke in the cabin, your first concern must be in limiting your passengers' (and your own) exposure to heat and a toxic environment.

Radiant heat affects us externally—reddening, blistering, or charring exposed skin. But extremely hot ambient air gasped into the lungs will scorch tender lung tissue and nasal

passages causing nearly debilitating pain. As fire burns through oxygen lines, you can expect welding-torch temperatures where the flames are fed by 100 percent oxygen.

Toxic smoke is another companion of the postcrash fire. Once lethal carbon monoxide, cyanide, and phosgene gases get into your passengers' lungs, look out for "squirrelly" behavior—the first signs of toxic inhalation. Continued exposure will result in death.

Protect Yourself

Keep in mind that the only survival experts on board are wearing the "green bags." Without the aircrewmember's leadership, your passengers' chances of living through the ordeal approach zero. So, take care of yourself.

That Nomex flying suit and jacket, high topped flying boots, gloves, headset, and hat you wear will shield you from radiant heat. A gloved hand between your face and the fire will prevent burns there, too. The same gloved hand or a handkerchief over your mouth will reduce the temperature of superheated air as well as remove some of the toxic element before the air gets into your lungs. Knowing and doing these things increases your chances for survival and, consequently, your passengers' too.

Clothes Make the Man

You're prepared—"dressed" for crash landing, so to speak. What about your passengers? A quick scan of them tells you that Nomex hasn't made it big in Paris yet. And the style-conscious space "A" definitely prefers Haggars to MIL SPEC 8031-7-5342, Sage Green. For that matter, he probably doesn't even realize his polyester triple-knit can become a permanent part of the skin when exposed to high temperatures.

Though wool and cotton also burn, they don't become molten globules as synthetics do; instead they char into ashes and fall away rather than adhere to the skin. Open-toed sandals or skimpy high heels aren't going to provide much protection from the heat of postcrash fires.

Now you can look at the sartorial stance of a passenger and tell at a glance his or her chances of surviving the inferno of a crash landing. If a passenger has a coat (remember: the more layers of clothing, the more protection) it's a big plus when compared to the troop traveling in a tank top and cut-offs.

Now you spot a real problem: a mini-skirted, halter-topped, sandaled passenger. You know this young lovely will *not* be voted "most likely to survive" your burning hull and toxic environment. She's going to need your help — you're the expert—do you have any ideas?

A Security Blanket

Remember in the beginning where we talked about protecting your passengers from the extreme heat and toxic environment? And how you'd use your own clothing for a heat shield and air filter? Well, you'll have to do the same for your passengers. Now before you offer the young lady your flight suit, think about alternatives. What about those wool blankets? And pillows? Used properly, these "extras" that you carry on board can give nearly as much protection as the Superman Suit you wear.

The wool blanket draped over exposed parts of the body will protect the skin from sizzling heat—you could have passed them out before with instructions to the passengers on how to use them, as part of your preparation.

A pillow wrapped around a hand and held lightly over the face and mouth will afford some protection from both superheated air and the toxic environment. Any piece of metal, a tray, or remnant of a troop seat can be used as a shield against radiant heat. Look around the cabin; you'll find many useful items. And don't expect help from others; it just might be a solo performance with you as the star.

We'll leave you there in the burning aircraft—this story has no end. The end is up to you. How do you think you'd fare?

The important thing is to think about these things *now* —wasting precious seconds after the crash landing or waiting until the nearly inevitable fire erupts is wasting life. Remember you'll probably have only 60 seconds to show how much you know.

Simulators, Syndromes and Safety

by **Webster B. Todd, Jr.**
Director of Engineering and Air Safety
Airline Pilots Association

Chairman Todd was the keynote speaker at the 29th Annual International Air Safety Seminar. At the time he was chairman of the National Transportation Safety Board. As an opinion leader in the flying community, Mr. Todd's down-to-earth philosophy will provide food for thought for all airmen, loadmaster and commander alike.

Your theme—Takeoff, Approach and Landing Accident Prevention—is most appropriate. I'd like to review our statistics. The Safety Board, (beating our own drum a little bit) probably has the best data base in the world on aircraft and aviation incident and accident statistics. Sometimes it isn't in the best form, sometimes the best use isn't made of it, but the raw material is there. Analyzing our statistics shows that over half of all aviation accidents, whether they be air carrier or general aviation, occur in takeoff, approach, and landing modes of flight. The NTSB has done a great deal of work in this area.

We have issued one special study recently that should be of great interest to you. It's an in-depth analysis of approach and landing accidents in the air carrier field in which we took 17 accidents in the last six years and studied them to try to determine what kind of patterns were present in that particular phase of flight.

"Forty-seven percent of the approach and landing accidents occurred on straight-in ILS approaches. Why?"

Some things jump out of that special study that are very interesting to me as a pilot and instructor, and I think they should be of interest to you. For example, 47 percent of the approach-and-landing accidents that we looked at occurred on straight-in ILS approaches. Full ILS's. That, at least as far as the United States is concerned, is the approach that represents the highest degree of development of our electronic technology in guiding an airplane to the ground. And yet, almost half of the accidents occurred on the most precise approach that we have in the country. Why?

The syndrome: " . . . for every accident there must be a fix . . . for every human failure, a correction . . . for every human lapse in flight, another buzzer, warning flag, instrument, whistle or gong to prevent the problem . . . if we can't come up with a black box, let's design a regulation."

We find that in all of the cases we looked at, the accident or incident, depending on its severity, occurred after runway or other visual cues were sighted by one of the aircrewmembers and called out to the remainder of the crew. Again, precision approach, visual contact, and yet, an accident or an incident.

All of these cases showed failure in one degree or another (at least as far as witness testimony, depositions, and cockpit voice recorder analysis could prove) to comply with required call-outs on the approach.

Shifting to another area that the Safety Board has been involved in recently, we're almost finished with what I call a special investigation of thunderstorm accidents in and around terminal areas. Again, a number of very interesting facts come to light. We took a 12-year period and looked at all approach, landing, and departure accidents in which severe weather in the terminal area was a causal factor. We found that in the first eight years, two accidents occurred with no fatalities. In the last four years, eight accidents have occurred in which there were 251 fatalities—one turboprop, seven jets. Now, that has to raise some questions. Has the Good Lord been building bigger and meaner thunderstorms lately? Are we missing something in the performance profile of a swept-wing turbojet aircraft? Do we not have adequate information available to the flight crew or to the ground controllers as to the degree of severity of the weather? Are there pressures working on a flight crew that are economic, or company procedural pressures, or simple machismo pressures that, in a terminal area, lead a pilot into contact with extremely severe weather that he would never approach en route? In the en route phase of flight, I don't think there has been a pilot that has deliberately flown in or near a cell of which he was aware. And yet it is done with great regularity in and around the terminal area.

Looking at the 1976 statistics to date, we find that air carrier accidents are down 34 percent, which really doesn't mean a lot except that there is a trend reversal compared to last year, which was down a little bit from the year before; but the year before was a particularly bad year. And on the general aviation side, the number of accidents is up but the number of fatal accidents are still down. Still in the general aviation field, again, over half of the accidents fall into the category of *failure to obtain or maintain flying speed* in the approach or departure phase of flight. All of the domestic U.S. air carrier accidents that have occurred this year have been in the approach and landing phase of the trip.

Are we seeing a lack of skill on the part of the flight crews or the pilot? Are we seeing a lack of information? Are we seeing a lack of communication? Is it poor procedures? Is it a lack of standardization of the procedures that are used in the approach or departure phase of flight? Or is it poor training? And last, is it poor equipment?

I don't think that any one of these is any more or less significant than any of the other questions. But what I wish to deal with is the training. I also happen to think that the training area is an area in which we, the aviation community, can make the most significant bottom-line impact as we look three or four years down the pike. Training problems encompass lack of standardization, perhaps poor procedures, and also inadequate communication and/or access to information that's available somewhere in the system. We must also concentrate more on the human element in the system.

We see in our statistics a shift away from being able to trace directly an accident cause to a mechanical failure, after discounting the Turkish Airlines accident in Paris. The electronics available on the ground, as far as inflight guidance is concerned, are extremely well developed. That doesn't mean that there is not going to be improvement when we get microwave landing systems available. (I commend FAA on the step that they've just taken in commissioning another 132 partial or full ILS's to put into air carrier and other airports in this country.) But the area where we can still make significant improvement, I think, is in the interface between the operator and the system itself: training.

I'd like to make a statement that will be controversial to some of you, but if you think about it, I hope any controversy that it generates will be positive. And that is, I believe the flight simulator is the single most underutilized piece of equipment that aviation has available to it today. It is underused for three or four reasons, but primarily because we, as a community, have allowed the fluid and dynamic interface of man and machine which we have in aviation to become rigid.

The simulator, instead of being a positive tool, an opportunity to take any pilot . . . and expand his parameters of knowledge, is usually used as a negative tool. A process based on checklists, if you will, is a process based almost on the presumption of incompetence of the pilot. Every six months, either the air carrier inspector or the instructor pilot that is checking that airman or looking at him from a proficiency basis, is from a prescribed regimen. There is no flexibility in the system, there is no ability or very little ability for a pilot, if you will, to play. He can't do it with a plane full of passengers, and unfortunately, the way the United States system is set up, he has very little opportunity to do it in the simulated or training mode either. The regulations that govern the effective use of simulation, at least as far as air carrier crews are concerned, are highly inflexible. They are basically designed to ensure that all pilots are able to jump through hoops, hoops that the pilot is well aware of and that have been around a long time—hoops that basically are designed to ensure the ability of the flight crew member being "checked" on his ability to mechanically translate information to machine operations.

"The flight simulator is the most underutilized piece of equipment that aviation has."

There is not nearly enough emphasis on the judgment of that man. There is not nearly enough emphasis on what that particular pilot may be interested in, what he has experienced in the preceding six months, what he's heard, what he has read, what he would like to learn about. He is totally programmed from the time he gets in that simulator until the time he gets out of it. He enters that simulator, whether he likes to admit it or not, whether the company likes to admit it or not, with the feeling in the back of his head that somebody is trying to take his certificate away from him. To remove his livelihood.

I submit that that can only lead to a basically negative training program.

On the general aviation side, we've seen a program that the FAA has undertaken that starts at quite the opposite end of the spectrum. And I'm talking about the Biennial Flight Review (BFR) program. Now, it has a lot of problems; it isn't running as smoothly as it might be, but essentially the BFR program is designed on the concept of a school without failure. The pilot will go and take his biennial check, and he cannot fail it. There is no record anywhere that he did poorly on it; what he will have is someone that checks him, saying, "Look, Dan, you're not quite up to snuff. Now go get a little more training here on these particular maneuvers or this particular segment of flight, and come on back and do it again." Training to proficiency, if it has any validity with the general aviation pilot, ought to have much more validity with the professional category of airman that you find in the air carrier system.

I think there is another thing that all of us have to avoid. Looking again at the program that is here before you, I see quite a bit of discussion in this particular subject area, and that is the approach that for every accident there must be a fix. For every human failure in the system there must be a correction. For every human lapse that we see in the conduct of a flight, we ought to be able to design another buzzer, or warning flag, or instrument, or whistle, or gong that is going to prevent that problem. And by golly, if we can't come up with a black box, let's design a regulation.

I think that's the wrong approach to flight safety. We must move away from an ad-hoc approach and begin looking at the total environment.

It means that a lot of traditions and a lot of classical ways of thinking on the part of Washington people are going to have to be reevaluated. We must look at safety in a sense that uses the total systems impact of the change as the basis for recommending or making that change, as opposed to an ad-hoc approach, such as the solution to problem A is an automatic improvement; whereas, in fact, problem A's solution may indeed generate problems B and C that have never been looked at because of inadequate attention paid to the environment and the total systems operation and the total impact of the suggested changes that are being made.

"The only object of training is to put the best qualified people in the front end of an airplane."

I can't speak for the entire NTSB. I can only speak for myself, as an individual. It's one of the reasons why I take this recorder wherever I go. The first boss I had in Washington did the same thing, and he used to say that if he was going to get fired for something he said, he sure as hell wanted to know what it was. Well, that's why I have the recorder, and why I always make the disclaimer that I am speaking as an individual, I am committing myself as an individual. What success we can have at the Safety Board in changing some of these traditional approaches and aspects in governmental operations, only time will tell

But I would say the object of training, the only object of training, is to put the best possible qualified people in the front end of an airplane. There is no room for parochialism. There is no room for adherence to tradition. There should be no yielding to the ways of an intransigent bureaucracy.

All of us, to the limited or maximum degree that we can, depending on our ability to influence, must dedicate ourselves to that goal. We can play with the black boxes; we can play with the systems; we can play with the airframe; we can play with the entire man-machine interface. But until we take a serious look at the fact that the human is now, and is going to continue to be for a long time to come, the major hatrack upon which the entire system design is hung, we'd better turn a great deal of our attention to using that great asset—the best computer in the world, which is in the head and the brain of the pilot-in-command.

ABOUT THE AUTHOR

Prior to assuming his present position with ALPA, Mr. Todd served as chairman of the National Transportation Safety Board. Born in New York City, he graduated from Princeton University in 1961 and was owner and president of Princeton Aviation Corporation from 1963 to 1969. During 1967-68, Mr. Todd served a two year term as an assemblyman in the New Jersey Legislature.

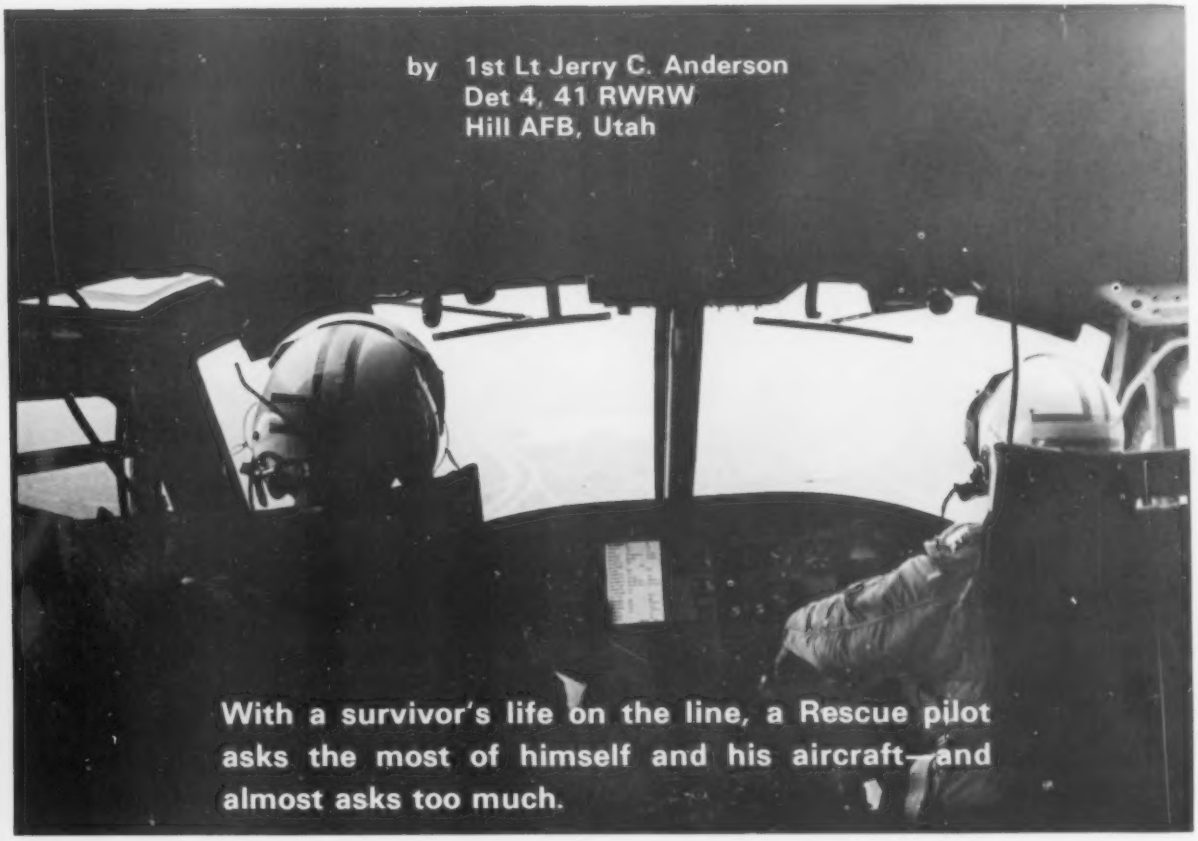
Entering Federal Service in 1969, Mr. Todd has held a wide variety of positions including Special Assistant to the Chairman of the Civil Aeronautics Board, Inspector General of Foreign Assistance in the Department of State, and Deputy Special Assistant to the President.

The former NTSB chairman holds a commercial pilot certificate with single-and multi-engine land and instrument ratings, and is both a Certificated Flight Instructor and an Instrument Flight Instructor.

Honorable Mention, 1977 MAC Flying Safety Writing Contest

Thin Margin for Error

by 1st Lt Jerry C. Anderson
Det 4, 41 RWRW
Hill AFB, Utah



With a survivor's life on the line, a Rescue pilot asks the most of himself and his aircraft—and almost asks too much.

Becky had bacon sizzling on the stove and the aroma beckoned him as he listened to the early morning sounds. It's still early, Rod thought as he looked at the clock, not really time to get up yet; he closed his eyes again. The ringing phone was a foreign sound and it shook Rod fully awake. He lifted the receiver and answered crisply, "Cap'n Beeman here."

"Captain Beeman, this is Sergeant Standitch at command post. We've got a scramble for you." Rod's heart pounded with excitement as the sergeant gave him the details of the mission.

Moments later Rod bounded out of the bedroom, zipping up his green bag. He grabbed a piece of jellied toast, a slurp of coffee, and headed for the door. "Got a *scramble*," he shouted in reply to Becky's questioning expression.

Telephone poles zipped by as he raced along the state highway, impatiently covering the ten miles to the base. His mind whirled as he started to organize the details of the mission. His chopper's performance would figure heavily in this mission since the survivor was on a cliff 7,800 feet up in Utah's Uinta Mountains. But he wasn't too worried. His unit had just received the new "N" models, and the twin-engine Hueys could handle the high density altitudes.

He reflected on his last six months with the rescue detachment. He'd spent many nights

on alert waiting for a real rescue mission. Finally his day had arrived!

He glanced at his watch—7:45. Hm, not bad. Only 15 minutes since he'd been called. But still he pressed the accelerator on his Vette a little more—the DO had an unwritten policy that all scrambles would be airborne within an hour.

Rod arrived at the detachment at 0755; the rest of the crew were already there. He briefed Lt "Mac" McCracken, his copilot, and MSgt "Charley" Brown, the flight mechanic, and then checked with the SOF about the survivor. Their rescuee was a 24-year-old Salt Lake City man who had been hiking in the mountains. He'd tumbled 150 feet down a mountainside and was saved from an additional 500-foot drop by a rocky overhang beside a waterfall. The sheriff's party had gotten word of the survivor's location from a hiking companion. The ground party couldn't get to him so they'd called Rescue for help.

The flight mechanic was busy readying the Huey for deployment. He was checking the hoist cable for signs of fraying as Rod approached.

"How is it, Charley?" Rod asked.

"Looking good, sir," the Sergeant nodded. "I've checked all the life support gear on board and the hoist is ready to go." Charley was the detachment flight examiner flight mechanic and highly respected—an "old head" who really knew his stuff.

Glad I've got him along, the AC thought to himself as he walked to the front of the chopper to check the forms. The 781 was fairly clean, just a few run-of-the-mill writeups.

Rod was soon on top of the helicopter checking the rotor assembly. His mind raced forward to the upcoming rescue. Sure hope McCracken did the TOLD right, he thought. He checked the hydraulic reservoir sight gauges; they were good. No time to worry about Mac's work now; we'll get a good check en route, he assured himself.

As the pilots were strapping in, the flight surgeon and med tech arrived and climbed aboard. Rod called for the before-starting checklist; the Huey soon roared to life, and they were off by 0825. "Not bad, 55 minutes after the call," Mac commented.

Their first stop was to be at Oakley to pick up a deputy sheriff who had pinpointed the survivor's location. The right-seater had his copilot refigure the TOLD; they'd be heavy going in, about 10,000 pounds. The landing was smooth, the TOLD had checked out and Rod's confidence increased.

"Turn right here, son," the white-haired deputy said with a drawl that reminded Rod of his days at Randolph. They entered a long, high-walled box canyon with a small lake at its mouth. After a minute or two the deputy drawled, "He's up here 'bout a mile, on the right wall. Just below that creek." A moment later he surmised, "He oughta be right here somewhere."

Rod saw the reservoir and creek, and turned to fly back over the spot their ersatz navigator had pointed out. Rod concentrated on terrain clearance and the tall pines on the slope; the other crewmembers scanned the trees below.

"Flare at four o'clock," Charley called.

Rod rolled the chopper into a 60-degree bank, bringing it sharply around to his right.

"There he is!" exclaimed McCracken, looking through the Huey's chin bubble.

"I've got him now," the AC announced as he maneuvered the copter into an orbit over the survivor.

"Mac, refigure the TOLD for 8,900 MSL," Rod directed, as he continued to look the pickup site over. "Boy, those guys didn't even guess close on the

pressure altitude," he moaned to himself.

Rod flew another tight turn over the cliff as MacCracken calculated the TOLD. "Got it," Mac said. "Ninety-four percent available, 89 percent required to hover out of ground effect."

Rod clenched his teeth. It was going to be tight—such a thin power margin. Then he called, "Hoist operator's check."

"Completed," was the crisp reply from the back. It's good to have an old head along, but what a tight place to get into, Rod thought.

The flight mechanic asked, "Cleared to open doors?"

The captain brought the Huey to a 150-foot hover over the injured hiker and replied, "Roger."

The front half of the helicopter protruded into a grotto of stately pines that ascended the steep slope. The Huey was hovering below the treetops and would have to be backed out. The copilot was monitoring the engine and transmission instruments while Rod controlled the chopper.

"You're using 93 percent!" McCracken blurted.

Rod winced. He *knew* that he should have left the deputy sheriff and all the extra gear back down the valley. But there just hadn't been time, he rationalized; the guy had been on the hillside over 24 hours already, and he needed medical help.

Charley reported, "Medic's going down."

"Pulling 94 percent!" groaned McCracken.

They were descending; Rod couldn't believe it. He tightened his grip on the cyclic, in spite of himself. There was no place to go with the medic suspended precariously on the hoist like a spider on a web. The trees loomed higher. Fear began to overpower Rod; he pulled the collective and rotor rpm began to droop. "You're losing rpm!" the left seater yelled.

Mac could see the hiker almost eye to eye now through the chin bubble. He glanced to his left at the pines, checking their proximity to the tail rotor. "Don't let the tail swing left!" he warned, knowing it was a futile remark—the tail was within a foot of a small pine.

Then he looked back at the instruments, afraid to look outside any longer. "Number one's 840, 860, 890 degrees. Torque is 104!" he shouted.

Suddenly they stabilized, inches from disaster; the helicopter stopped descending and the rotor rpm stabilized.

"What the hell?" Rod gasped.

"The medic's on the ground," Charley reported, as if in answer.

"Must have been a downdraft," Rod remarked calmly. "I hadn't figured on that." He glanced at Charley; a little color was returning to the flight mechanic's cheeks. The crew heaved a sign of relief in unison.

"I just kept the medic going down at full speed. You should have seen the look on his face," Charley said, beginning to smile.

Rod carefully backed the Huey out of the trees and headed down the valley. He would let the deputy sheriff off in a clearing with the excess baggage and then return to finish the rescue. He looked at his copilot. McCracken's face was ashen. "You okay, Mac?" Rod asked.

"Yeah, I guess so. But we sure cut it thin."

Thin indeed. Rod had overtemped number one engine and overtorqued the gearbox during his very first rescue attempt. He'd never again ride with such a thin margin for error.

ABOUT THE AUTHOR

Lieutenant Anderson graduated from Marquette University in 1972. Following his commissioning at Lackland AFB he attended helicopter pilot training at Fort Rucker and Hill AFB, winning his wings in 1974. Lieutenant Anderson was then assigned to HH-53's in Thailand and subsequently to UH-1's at Hill. He is currently flying UH-1N's and has logged three actual saves.

The "Good Old Days"—when the shiny new Starlifters glinted silver in the sun and every mission was a new adventure. When the last trip before Christmas was a shopper's delight and you could almost see your kids' faces shining you picked out their presents. When "MAC Happy Hour" at Yokota always meant a no-notice reunion with a dozen old friends at five o'clock in the morning. When the mai-tais at Hickam seemed to get better with each trip. When the HF was filled with voices, and you always seemed to recognize one or two. It was easy to love those times, and those places, and the beautiful silver airplane that took you there—and brought you home again.

Sweptwing Shadow

Silver wings o'er the ocean—
Shining in the sun—it's the One Forty One.
See the contrails—how they mark the course she's on
Flying high, oh, swift One Forty One.

Starlifter, are you going
Chasing after stars? Or following the sun?
Sweptwing shadows echoed from high above
Good winds to you, oh, swift One Forty One.

Each mile you fly around the world
Must be a happy mile—
Each place your graceful silhouette,
Surely sets the style.

Starlifter, are you going—
Chasing after stars? Or following the sun?
I'll look for contrails that signal you're coming on.
I'll look for you, oh, swift One Forty One.

Lt Col Orlen L. Brownfield

Mishap with a Moral

Caught in Winter's Trap

The dangers of winter weather prove even more deadly when they're underestimated.

It was just before sunset on a January afternoon when the twin Cessna lifted off from a Georgia airport and headed northwest. The civilian pilot, his wife, and their five children were on the way home to Michigan after a vacation in the sunny South. Estimated time en route for the IFR flight was four hours; the aircraft had six hours of fuel on board.

Before the flight the pilot had received a personal weather briefing at the local flight service station. The forecast wasn't good; a cold front extending from New Jersey to the Gulf of Mexico was bringing widespread IFR conditions, rain, and snow to the Ohio Valley. Low freezing levels and moderate icing were expected along the route of flight. In addition, several airmets and sigmets warned of low ceilings, restricted visibilities, moderate to severe icing, and thunderstorms. Not the best weather for a light twin, even though the aircraft was equipped with de-icing systems and weather radar. But the pilot, with 93 hours of actual instrument time in his log book, pressed on.

The first indication that the flight wasn't to be routine occur-

red just eight minutes after takeoff. Stating that he had "a fluctuation on the right engine," the pilot declared an emergency and requested radar vectors back to his departure point. But then a few minutes later he radioed," ... everything seems to be fine ... let's start climbing." He was given vectors to the airway and cleared to climb to 11,000 feet.

The owner's manual for this aircraft recommends that a rough engine be shut down whenever possible. It also requires an inspection after any rough engine operation.

As darkness closed in and the flight proceeded northward, the pilot requested and received vectors around buildups and areas of precipitation. He informed the controller that he had weather radar on board, but added, ". . . I'm new with radar here." For about two hours the flight went smoothly, with only a single encounter with heavy rain. But as the Cessna approached the mountain ridges of Virginia, the pilot called, "Center, 647C is starting to pick up some ice at 11,000. Any report on where we can go to get out of this?"

"Six-four-seven-Charlie, you can climb or descend at your discretion," the controller replied.

"Okay, out of 11,000 for 15,000." Then, a few minutes later: "Center, 647C's having an engine problem here . . . better stay at eleven."

The pilot was cleared to maintain 11,000 and given vectors to keep him on course. After a few minutes, he called again.

"Center, 647C has extreme vibration again, sir."

"Say again, 647C."

"Rog, 647C has extreme vibration again, and you had better lead me to an airport."

At this point, the nearest airport with an instrument approach was about 20 miles behind the aircraft. The pilot accepted vectors to the VOR and clearance for a VOR approach while the controllers, who were now handling the flight as an emergency, did their best to obtain weather for the field. But the airport was unattended at night, although lighted; the nearest weather report available was from a field some 30 miles further away which was reporting 1,600 broken and seven miles in light rain. The pilot accepted this information as valid and continued the approach.

Communication was now becoming a major problem as the aircraft descended and ice accumulated on the airframe and antennas. Many of the controller's instructions had to be repeated as he coached the pilot through the approach. Finally, the pilot reported, "I don't have ground contact . . . I'm at 3,000 feet . . . I'm too high." At this point, he was 360 feet below the MDA and only 320 feet above the ground.

On the ground, at home, the airport operator heard the aircraft as it made its missed approach. He estimated the ceiling to be 200 overcast with one-quarter mile visibility in freezing rain. The ground and trees were covered with a quarter-inch of clear ice.

Now the trap had closed. Unable to climb above 3,000 feet because of the accumulation of ice on the aircraft, the pilot asked for vectors to another airport. The controllers tried to vector the aircraft down a valley, around the end of a ridge, and into an airport where the weather had been reported as suitable for landing. They almost made it. The elevation of the ridge that the Cessna finally struck was 3,300 feet. There were no survivors.

NTSB investigators found nothing wrong with either of the engines. The probable cause was " . . . controlled collision with the terrain . . . because structural icing prevented the pilot from climbing to a safe altitude." The report also mentioned the pilot's "failure to appreciate the severity of the weather conditions . . . and to divert the flight before his options were reduced . . . ."

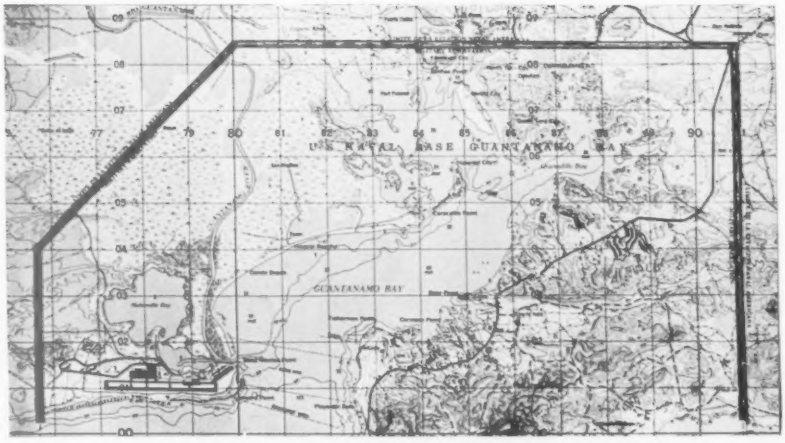
Other factors could probably be mentioned: "get-home-itis," overconfidence, poor planning. Sound familiar?

Guantanamo Bay NAS

Cuba

Located about 450 miles from Miami on the southeast coast of Cuba, Guantanamo poses some unique problems for aircrews. Although terrain isn't a significant factor at "Gitmo," airspace certainly is; the only free operating area for USAF aircraft is directly over the military reservation. For this reason, approaches executed from the tacan, VOR or NDB lead an aircraft in over the water for a circling approach.

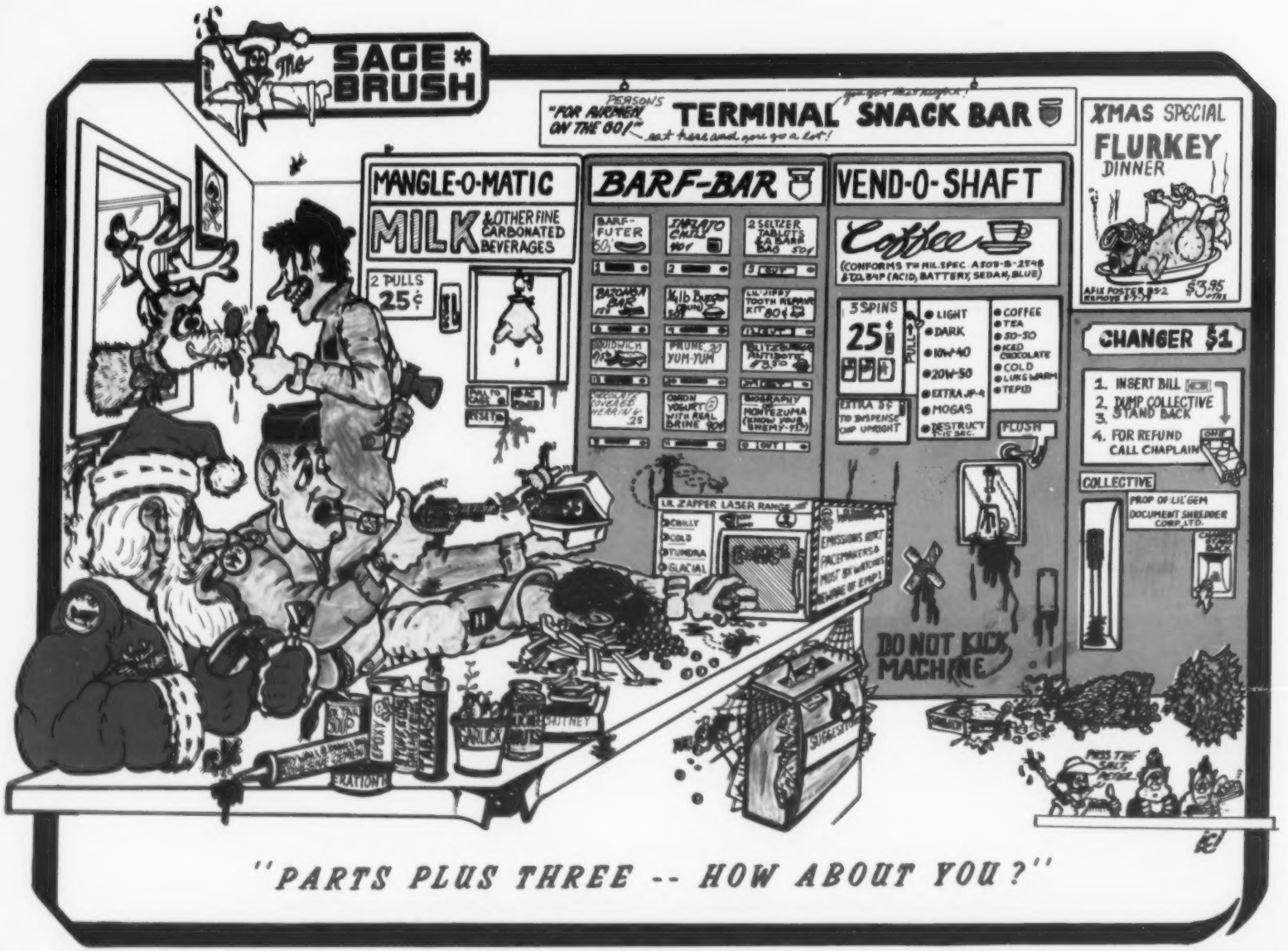
Guantanamo's single runway, 09/27, is 8,000 feet long and 200 feet wide. An approach to 09 or departure from 27 leaves very little room for maneuvering; to avoid violation of Cuban airspace and possible bullet holes, aircraft must remain within three-quarters of a mile from the approach end of 09. Landing on 27 and departure from 09 are mandatory for MAC aircraft when winds permit.



Free airspace around Guantanamo is very limited.

The approach to runway 27 features a 50-foot cliff and no overrun.

Landing on runway 09 requires a base leg less than three-quarters of a mile from the approach end.



"PARTS PLUS THREE -- HOW ABOUT YOU?"

Here's to Your Health!

The holiday season provides many opportunities for increased consumption of "the cup that cheers." If you want to indulge, but still avoid inadvertent vertigo, this article provides some tips to reduce the potency of those holiday potions.

Toasting your client's health with a glass of ginger ale could be misconstrued as ill will—no matter how honorable your intentions. Under such circumstances, a cocktail isn't only acceptable, it's practically required! An occasional luncheon martini with a client, an after-work scotch-on-the-rocks with an associate, or a glass of champagne at a corporate dinner party is an inherent part of the executive lifestyle. But it needn't become an occupational hazard.

Sure you've read that an ocean of alcohol can drown a liver and wipe out brain cells. And, if you're watching your weight, you're probably aware of all the empty calories floating around in your Bloody Mary. But "unless you've got a serious health condition which restricts your alcohol intake, a mixed drink now and then will probably do more good for you than harm," says Morris Chafetz, M.D., "provided you know the safe way to drink."

Founding director of the National Institute on Alcohol Abuse and Alcoholism, Dr. Chafetz notes that the first step

toward safe drinking is recognizing your limitations and knowing when to stop. For the average 160-pound male that means calling it quits after a daily dose of one and a half ounces of *absolute* alcohol. This may be calculated by multiplying the percentage of alcohol (which is one-half the proof) times the total number of ounces you're drinking. In other words, never exceed three one-ounce shots of 100-proof whisky, or four eight-ounce glasses of beer, or half a bottle of table wine in one day. Studies have demonstrated that persons who stay below this "limit of moderate drinking" are at no greater risk of an automobile accident than those who do not drink. So determine your limit and stick to it.

But how do you say no to a refill without offending your client or business associate? Dr. Ovide Pomerleau of the Center for Behavioral Medicine at the University of Pennsylvania Hospital provides some gracious ways to pass up a second round. "Don't succumb to pseudosocial pressures," he warns. "You can still make the sale by saying, 'one is enough for me, but please don't let me stop you from having another.'

"You can also bypass the problem by never draining your glass," he suggests. "That way you avoid the empty glass signal for a refill. And if anyone asks, you can always decline with a 'thanks anyway, but I've still got some.' "

If you know the drinking session or cocktail party is going to last more than a few hours, pace yourself. Intersperse your three gin-and-tonics with a plain club-soda-on-the-rocks with a twist. You'll always have a full glass and it will appear like you're keeping up, even though you're maintaining a safe limit.

Beyond how much you drink, the most crucial factor is how you drink it. Downing three shots in 30 minutes on an empty stomach is the quickest way to drunken disaster. Learn to sip, not guzzle.

The trouble with alcohol is that at least 20 percent of it is absorbed directly from the stomach into the bloodstream without having to go through the digestive tract. So the faster you gulp, the faster your blood alcohol levels rise, and the faster you get drunk. Although alcohol levels in the blood can reach the same peak in sippers as in guzzlers, studies have shown that those who guzzle stay drunker for longer periods of time. A quick drink is more potent and its effects outlast a slow one.

Drinking on an empty stomach can also cause a rapid rise in blood alcohol levels. But if your boss invites you out for a few predinner drinks, you may have to make do with the munchies on the bar. Authorities tell us that fatty foods or protein are probably best for retarding the body's absorption of alcohol, because they tend to slow down the digestive process. So top your crackers with a wedge of cheese or tip your chips in dip. Chicken wings or other popular hors d'oeuvres also serve this purpose.

Drinks with food in them, such as eggnog which contains eggs, milk, and cream, are probably the best bet if you're feeling hungry. The tomato juice in a Bloody Mary or the orange juice in a screwdriver, however, is not enough to make an appreciable difference.

Otherwise, alcohol is alcohol—no matter how you mix it. The only thing that counts in terms of getting drunk is the number of ounces of absolute alcohol you consume. Combining beer with wine and whisky in one day may make you sick but won't make you any more drunk. By the same token, having your scotch on the rocks or straight up or with soda will affect you exactly the same way if drunk at the same speed. Of course, diluting your ounce of alcohol in a large glass of mixer will undoubtedly slow your rate of ingestion.

If you're prone to headaches and other hangover symptoms, however, you may want to stick with vodka. Studies have disclosed that hangovers are produced most frequently by those beverages which are made through long fermentation processes. It's not the alcohol that's the culprit, it's other by-products of fermentation and distillation. Brandy is probably the worst thing to drink in this regard, followed by red wine, rum, whiskey, white wine and finally gin.

—Executive Fitness Newsletter

C.R. puts on the dog for Christmas, thereby presenting Tassels—and our readers—with a canine conundrum.

"Deck the halls with boughs of holly," the Bulgy Baritone bugled.

Sam looked over from the right seat and smiled at his boss. "Yes, sir, Major Terror, looks like we'll make it in plenty of time. What did you get Miss Taylor for Christmas?"

"That's my big problem, number two," The Bold One's brow furrowed. "What can I get Tassels that she hasn't already got?" He began counting on his fingers. "She's got that wombat skin coat I brought her back from Athens, the Honda Gold Wing from Tokyo, candlesticks from Bangkok, a giant brass table from Iran, two camel saddles from Turkey, a pair of elephants from Saigon, and a papasan chair from Clark. And last year, I got her that grandfather clock from Germany."

"Sounds like her apartment must be decorated in 'contemporary military,' " Sam giggled.

"Naw, Sammy," the Bald One shook his head. "She won't wear the coat or ride the Honda. And all the furniture's in storage. She says it's far too valuable to be in her meager penthouse."

"Hey, Skipper." It was Blinky. "I gave my sweetheart a nice charm for her bracelet and she loved it. Maybe Tassels would like one, too. There's a nice gold one that's inscribed 'Navigators Are Better Finds.' Maybe—"

"No, Blinky," C.R. shook his head, "I don't think so."

"Major Terror, I've got it!" Max Torque shouted jubilantly. He opened the drawer on his engineer's table and extracted a bumper sticker which said "Flight Engineers Have More Endurance."

"Thanks, Max," C.R. chuckled, "but I don't think Miss Taylor would—" He stopped in mid-word as he noticed Ty Downs ascending to the Starlifter's flight deck and unrolling a large poster.

It had a large red heart in the center with a cupid's arrow through it. "Love a Loadmaster," it said in 90-point Bodoni.

"Gee, thanks, Ty—and the rest of you." The Great One felt humbled a bit at his crew's Christmas spirit and concern for their boss. "It's really nice, but this will have to be something I do myself."

With that, the Near-Mach Macho dropped one hand to the throttles and pressed them forward. The indicator climbed over M. 80 and C.R. smiled. "We'll squeeze in a few more minutes

for all us late shoppers," he winked at a wide-eyed Blinky. His navigator had never seen a 500-knot true airspeed before. Max seemed to be equally nervous about the way the hungry turbofans were gulping up JP-4. He turned to Blinky, "What's the new ETA, sir?"

Blinky spun his computer and glanced at his watch. "About an hour, ten," he responded.

"Major Terror," Max began, "we'll only have about ten thou—"

"Tut, tut! Max," the Bold One interrupted, "you worry too much."

A little more than an hour later, the Stalwart Stand-out's Starlifter was streaking down final for runway 05. "Yawhoo! The Rhinestone Flyboy is heading back to the ranch," C.R. yelled as he began pushing and pulling on the yoke; the C-141 responded with a bucking motion.

"Sir, I've got the field on radar, three miles out," Blinky called. "Maybe you should start slowing down."

"Oh, uh, right," the Ambient Aeronaut addled. He pulled the throttles back and popped the spoilers to flight limit. The big jet shuddered. "Flaps landing, Sammy!" he shouted. "We'll get this thing on the ground yet!"

"Be glad to, sir, if you'll just retract the spoilers." Sammy was a bit concerned now—the runway was coming up fast and the flaps and gear were still up.

As the Pudgy Pilot pulled the spoiler handle up Sammy set the flaps to landing and put the gear handle in the down position. The gear horn blasted.

Sammy closed his eyes very tightly and was relieved to hear the horn stop just before the main gear contacted the runway. His respite was short as he opened his eyes and saw the 3,000-feet-remaining marker whiz by and the airspeed still near 100 knots. "Better go around, sir!" Sam shouted.

"Nonsense, m'boy," the Ace of Assaults announced. "Let me show you some of my Herk flying background." With that, the Tactical Titan tromped on the brakes and pulled the throttles into full reverse.

Compressors stalled, brakes smoked, tires blew, and the Starlifter stopped in the overrun.

As the tug pulled up to the disabled Starlifter, C.R. noticed a blue staff car speeding in his direction.

"Uh-oh," Sam said, "that looks like trouble."

"C'mon, Sam," the Happy Hyperbolator hinted. "The DO probably wants to congratulate me for handling such a sticky situation. The antiskid obviously needs work, huh?"

"Er, yes, sir."

Christmas Eve darkness was settling in nicely as the Rotund One dejectedly left the DO's office.

C.R. shoehorned his pudgy profile into the bucket seat of his XKE and punched the starter button. The throbbing sounds of his British Racing Machine lifted his spirits slightly as he headed off in the direction of Saks to find the just-right gift for Tassels.

Again humming a Christmas tune, the Raucous Racer lit an Egyptian Oval cigarette and drew the smoke through his ebony holder. Things have a way of working out, he thought.

Suddenly his E-type began to sputter and C.R. spotted the fuel-low light. "Drat!" he mumbled as he swung his Pride of Coventry to the side of the road. He coasted to a stop in front of the only structure within a mile and noticed that the lights were on.

"Galore's Pet Shoppe," the neon sign read. C.R. alighted from his fuel-less auto and stepped inside.

"Excuse, mum," C.R. addressed the elderly lady behind the counter, "my roadster is suffering an acute case of fuel starvation. Per chance could I borrow your instrument of communication and call for some gasoline?"

The lady eyed C.R. curiously. "Certainly, sir." She gestured toward the phone.

C.R.'s pudgy fingers quickly dialed the number of Bill's Noxxe Station.

"Bill? Major Terror, here," C.R. said into the receiver. "Listen. Got a problem. I'm out here in front of Galore's Pet Shoppe and out of gas . . . Yeah, that's the place. And I haven't got Tassel's Christmas gift, so hurry . . . Fifteen minutes? Sterling, my good man . . . Thanks!"

As the Rotund One replaced the receiver, the shopkeeper continued to study the Ace of Aerospace. "Excuse me, sir, you say you still have to procure a gift for a sweetheart?"

"Yes, ma'am." C.R. glanced at his watch. "And it's going to be close—Saks closes in a half hour."

"I think I can help. Come with me."

C.R. and the attendant entered a back room full of yelping dogs, meowing cats, and slithering snakes. "This way, sir," she said as she guided C.R. to a cage containing one small canine. "Here it is. Your lady will love you for this."

C.R. stared in disbelief at the

animal. "Criminently! That's got to be the *ugliest* dog I have ever seen!" C.R. exclaimed, but he noticed that there was *something* about the dog . . .

"I know your lady friend will just love it," the woman opening the cage and lifting the mutt out. "It's part coyote and part rat terrier. We call it a C.R. Terrier. It's the only one of its kind."

"Hmmm. Maybe Tassels could use a watch dog," C.R. considered, "but that dog is so ugly. Maybe a Doberman . . . "

"Sir, I'm sure your lady will love this dog."

"But you don't even *know* Tassels—"

"Trust me," she said with a broad smile.

Thirty minutes later, the Round One and the Curious Canine were headed for Tassels' in a newly refueled racer. As C.R. rounded the last corner he noticed that the mutt had picked up something from the console. as a street light flooded his cockpit, he saw that the terrier had his cigarette holder.

"Good grief," he muttered. "I suppose he won't drink anything but Terrorific 'Tinis either."

Minutes later, the World's Finest Everything was standing in front of Tassels Taylor's penthouse door—the mutt under one arm and a bottle of Cracklin' Rosey under the other.

C.R. was greeted with a shocked countenance from Tassels. She stood in the doorway alternately looking at the dog and at C.R.

Beads of perspiration began to form on the Bald One's head. "Actually, um, my dear, er, I, ah . . ."

"Why, darling, is that for me?" Tassels queried, her eyes wide and her smile broad.

"Huh? Oh, yes. Certainly," C.R. stammered.

"Well, I just *love* him," she smiled and took the dog from C.R. "Such a wonderful Christmas present."

"The minute I saw him," C.R. said confidently, "I knew he was for you." He popped the cork on the Cracklin' Rosey and filled two glasses. "Now what are you going to name him?"

"Gosh, I don't know, Cuddly Bear," Tassels mused. "What do you think?"

"Hadn't given it a thought. Hmmm. I just don't know."

"Maybe some of your friends could help out. Could you ask them?"

"That's not a bad idea . . . "

Dear Friends of C.R. Terror,

I'm in need of a suitable name for Tassels' C.R. Terrier. In an effort to assure that the dog is properly named, I am offering one (1) each, T-shirt, with my own handsome face emblazoned in the region of the pectoralis majoris, to the one who selects the most appropriate handle for the Cuddly Canine.

Send your entry to me; that's:

Maj C.R. Terror
The MAC Flyer
HQ MAC/IGFE
Scott AFB, IL 62225

And hurry; entries must be posted by 31 January 1978 to be eligible for this magnificent trophy.

Sincerely,

C.R.

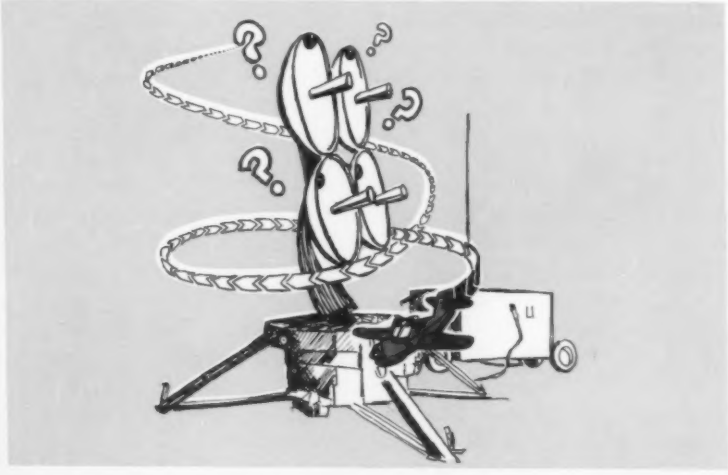
Quick Stoppers

. . . and the Crew Chief Got Taller

Maintenance troops were called to the twin-engine turboprop to fix a hydraulic leak before the day's flight. As part of the maintenance, the airplane was jacked and given a gear retraction test, which it passed perfectly. The writeups were signed off and the transport was handed over to the crew. Apparently in a hurry to get going, the aircrew whipped through their checks and started the engines. As the hydraulic pressure came up, so did the landing gear—thanks to the gear handle, which had remained unnoticed in the "up" position. The aircrew scored well on egress.

Disappearing Act

Investigation of a recent near-midair between a C-141 and a lightplane turned up an interesting fact about ARTCC's radar. It seems that aircraft flying at certain ground speeds relative to the radar antenna sweep may become "invisible" unless they're equipped with operating transponders. In this case, the civil aircraft was legally flying VFR in visual conditions; but radar was unable to detect the aircraft even after the Starlifter crew notified approach control of the near-midair. One more reason to keep your head out when the weather's good.



An Arrow Escape

The knob on the C-130 refueling master switch was loose, so maintenance replaced it. However, the replacement was a DC generator knob with two arrows marked on it 90 degrees apart. During preflight, the engineer placed the knob in what he assumed was the "off" position; but the press-to-test feature of the fuel gauges didn't work, so he moved the switch until the gauges worked as advertised. The crew started engines and taxied out for takeoff. Fortunately, they were still on the ground when number four flamed out, followed shortly by number three.

The position selected on the refueling master switch turned out to be an unmarked, unused position which still allowed the fuel gauge press-to-test to work. It also allowed air into the crossfeed manifold, and since the Allisons don't run on air . . .

QS

Anybody for Leftovers?

Just about everyone has heard the story about the shade-tree mechanic who takes a car apart, puts it back together, and has a big bunch of left-over parts. It's usually good for a chuckle—but when the story is about an airplane, it's not quite as funny.

The CT-39's main wheels were changed over the weekend; on Tuesday, some leftover brake spacers turned up. Suspecting that they belonged to the now-departed Sabreliner, maintenance types phoned ahead; the pilot was advised during his approach that his wheels might be minus a few parts. He landed without difficulty but wound up with hot brakes on taxi-in. The spacers were indeed missing. Damage had been done to the wheels, brakes, and axles, and the left hubcap was gone.

Jolly Green Bites Mesquite

The crew of the Jolly Green was tasked to take a survey team to a remote area and return. The AC anticipated some extra flying in the remote area to help the survey team, so he filled the copter up to 4,000 pounds of fuel. The crew planned their mission carefully, computed the takeoff data, and departed for the remote site. After a 40-minute flight the AC guided the Jolly Green to touchdown in a sloping clearing among a few mesquite trees.

About two hours later, the team was ready to go home. The pilots talked about the takeoff and the techniques they'd use—they decided to verify the takeoff data by attempting a five-foot hover rather than recomputing. But their pressure altitude was now 3,500 feet (800 feet higher than at home), the air was a little hotter and there wasn't any noticeable wind.

Rotor rpm on runup was 103 percent. When the pilot tried to establish a hover he induced some rolling oscillations due to the sloping takeoff surface. Both pilots later said the rotor rpm then immediately drooped to about 98 percent. When the tail rotor slowed, it lost some of its effectiveness and the chopper started to pivot to the pilot's left. The pilot applied some aft cyclic, the helicopter backed up, and the tail rotor bit into a mesquite tree. After chomping the tree the Jolly Green settled back to earth.

Checking the copter, the crew found the main rotor was okay and the tail rotor only slightly damaged. The pax got out of the aircraft and the crew ran the engines to burn off some fuel. They reduced their gross weight even more by making a short flight to dump fuel. The Jolly Green then picked up the survey team and headed for home where maintenance replaced two of the tail rotor blades.

Investigators concluded that the pilots had tried to take off with three percent less power-available than power-required and improper pilot technique probably contributed to rotor droop. The AC was criticized for letting his copilot make the takeoff under adverse conditions.

No Speeding

The C-123K had just leveled off at 8,000 feet when the pilot noticed the number one recip rpm increasing from 2,000 to 2,200. He pulled the propeller lever to full decrease, but the rpm continued increasing to 2,600. Closing the throttle had very little effect, so the pilot feathered the engine with the prop lever and returned for an uneventful landing. Cause of the incident turned out to be an improperly installed speeder spring in the propeller governor; the error had probably been made during the last engine overhaul.

Roller Rip-off

Next time you go out to fly an airdrop mission, it might be worth taking a little extra care to make sure all loose equipment is properly stowed or secured. Not long ago, a roller conveyor assembly departed the ramp of a C-141 when the doors were opened on the way to the DZ. The crew closed the doors and checked the other rollers for security; although all of them appeared secure visually, one assembly was not completely locked into place. Safety types are taking a close look at preflight inspection and airdrop rigging procedures.

Heater Hazard

The temperature was low enough to require preheating the engines of the twin recip. When the motors were warm, maintenance personnel shut off the heaters, waited a few minutes, and began refueling operations. But the wait hadn't been long enough; residual heat touched off a flash fire. Some of the troops moved the burning heater away from the airplane while others grabbed a nearby fire bottle to douse the flames. The fire bottle didn't work, but an extinguisher from the refueling truck did. Thanks to quick action on everybody's part, there was no significant damage.

A check of the faulty extinguisher revealed frozen moisture in the nozzle. This prompted an inspection of ten others—*nine* of which were inoperative for the same reason!

Notable Quote

Those who insist on ignoring the smaller safety problems about which something can be done, pointing to the larger problems about which nothing can be done yet, are mostly evading the issue. Most safety measures adopted deal with small portions of the total hazard. Over the years, the steady improvement that results is significant. If each step is discouraged because it doesn't solve the whole problem, then nothing is accomplished.

C.O. (Chuck) Miller
System Safety, Inc.

after deadline . . .

CHANGING TACTICAL CALL SIGNS are here to stay, says the JCS. Only a few specific missions will be excepted, such as air evac or missions requiring diplomatic clearances. Aircrewmembers can help the system work safely by speaking clearly and using complete call signs. If you are issued an unsatisfactory call sign (how would you pronounce "Pece"?) there are ways to have it removed from the list. You should contact your flight safety officer with any communication problems and "get the word out."

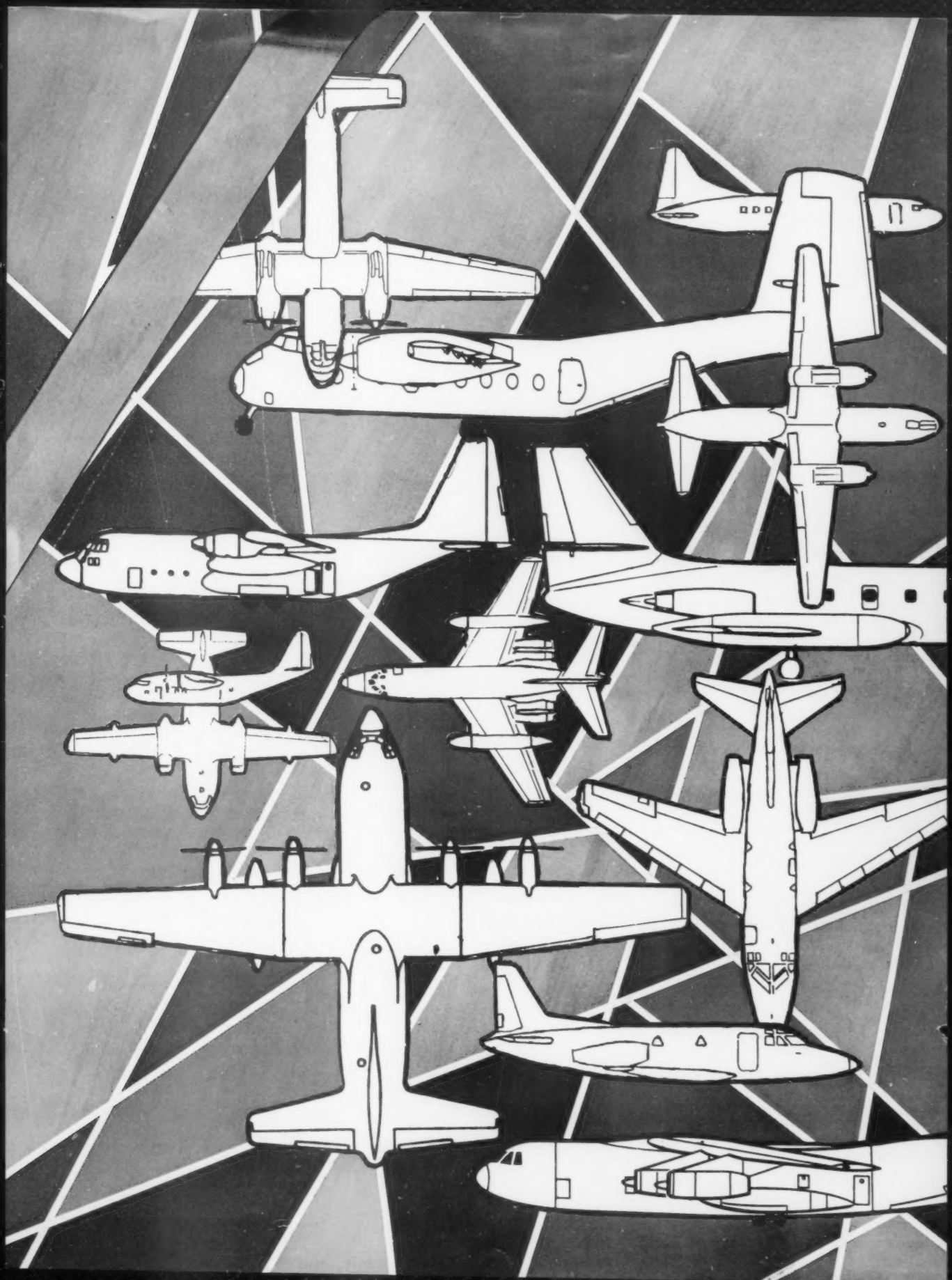
APG'S AND MAINTAINERS: If you're looking for a chance to wear Air Force crewmember wings, this may be it. MAC is going to need 400 to 500 flight engineers within the next two years. This is a "lateral speciality" and only certain maintenance types can train into the field. Right now, Air Force wants qualified 42XXX and 431XX troops for the Palace Panel program. Career E-4's and up are eligible. If you ever wanted to be an engineer, see your CBPO retraining NCO and fill out an AF Form 299 today.

NOMEX FLIGHT SUIT AND GLOVES provided significant protection for a C-123K flight mechanic during a recent major accident. The flight mechanic fought a fire in the cargo compartment until he was signaled to bail out. He sustained no major injuries while fighting the fire or during the parachute escape. The pilots landed the crippled Provider and egressed safely. Look for more on this in a future issue.

MACR 55-130 (TEST), a consolidation of C-130 aircrew directives, is now in use by three Herk units. The test of the consolidated-directives concept will be completed this month. If the results are favorable, look for more consolidations early in 1978.

JANUARY ISSUE OF The MAC Flyer will feature an aircrewmember's account of the C-5's odyssey to Moscow and an article about the weather reconnaissance mission. "The Airlift Legacy" will feature the C-118.

The MAC Flyer 1977 Index

Title	Month	Page
Accident Discussion		
Dutch Roller Coaster	Mar	16
He Fell Out! He's Going To Die!	Nov	4
Illusion of Danger	Jan	8
Missing a Gear Door	Jul	13
Over the Beacon at Gambell	Mar	11
An Unforgiven Error	Mar	14
The $30 Million Birdstrike	Oct	10
Accident Prevention		
Philosophy and Techniques		
A New Year and Some Current Ideas	Jan	16
Convenient Flying Safety	Mar	8
Did You Hear About Joe?	Aug	8
Interview With a Master Test Pilot	Jan	12
Pointing Out the Hazards	Feb	7
Satan's Safety	Jun	13
Simulators, Syndromes, and Safety	Dec	9
The SOD	Jan	21
The Way It Was and The Way It Is	Jan	7
Supervision		
CYA	Aug	4
Speaking of Discipline	Oct	21
The Trial of Adam Slocum	Feb	12
Editorials and Letters		
A Christmas Message	Dec	3
A Commander's Farewell	Apr	3
Gray Area Decisions at Block Time	May	22
Letters to the Editor	Apr	24
Letters to the Editor	Sep	20
Mack C. Dent's Briefcase-Timeclock Philosophy	Jul	19
Mack C. Dent Comes to Town	Apr	7
Overwater Gulf	Oct	4
Facts and Reports		
Accident Statistics for 1976	Apr	20
The Blue and Gold Concept	Oct	3
Is There a Midair in Your Future?	Jun	3
The Legend of Hercules	Jan	3
Red Flag	May	11
The Shade Trade	Aug	20
The Stretched Starlifter Rolls Out	Apr	13
Why Can't I Wear Contact Lenses?	Jun	10
Human Factors		
Physiology		
The Blue and Gold Concept	Oct	3
The Coronary Conundrum	Aug	11
Decompression Sickness	Jan	10
Deliberate Decompression	Sep	3
Here's to Your Health!	Dec	22
The Last Medevac	Nov	12
Physiological Merry-Go-Round	Feb	20
Self-Medication: *Primum Non Nocere*	Aug	21
The Shade Trade	Aug	20
Why Can't I Wear Contact Lenses?	Jun	10
Psychology		
Aviation Character, An Essential Ingredient	Jun	19
Conflict of Interests	Mar	20
A Ghost of Christmas Present	Dec	4
Psychology (Continued)		
Impatience, Temperament, and Flying the Line	Apr	22
Stress	Mar	21
Incident Discussion		
An Arctic Odyssey	Sep	12
A Little Restraint	Aug	3
No Margin for Error	Jun	7
Who's Following Whom?	Jun	27
Operations		
Aircrew		
Attached for Flying	Apr	9
A Cautionary Helicopter Tale	May	18
Cold Weather Quiz	Nov	8
Danny D. Sees the Light	Nov	18
Helicatchers	Sep	19
How To Bust a Checkride	Apr	4
Judgment Call	Jul	4
A Little Restraint	Aug	3
Luck, Skill or Divine Intervention	Mar	3
Missing a Gear Door	Jul	13
No Margin for Error	Jun	7
The Missing Ingredient	Sep	10
Over the Beacon at Gambell	Mar	11
A Pilot With a Small Foot	Feb	22
Pride Goeth Before the Fall	Feb	3
Raven One-One-Four	Oct	16
The Saddest of Things	May	3
Simulators, Syndromes, and Safety	Dec	9
Thin Margin for Error	Dec	13
A Thousand to One	Apr	14
Touchdown: 600 Feet Above Minimums	Jun	4
The Visual Approach: Not Just for Locals	Nov	20
Communications and Air Traffic Control		
Communicaton Bypassing May Prove Fatal	Feb	10
Everything's Up-to-Date in Kansas City	Jan	18
In Plane Language	Sep	8
The Saddest of Things	May	3
Flight Planning and Navigation		
A Little Restraint	Aug	3
A Thousand to One	Apr	14
Flying in the Big Apple	Feb	16
Flying the Buzzard One Without a SID	Oct	8
Helicopter Legs	Oct	22
How to Get Lost in Your Own Backyard	Sep	16
The Loop	Oct	18
Over the Beacon at Gambell	May	11
TourGuide: Navigating in Europe	May	7
The Visual Approach: Not Just for Locals	Nov	20
Life Support and Survival		
A Book Review: *POW*	Nov	15
A Case of Survival	Jul	8
Prepare for Crash Landing	Dec	7
The Shade Trade	Aug	20
Why Can't I Wear Contact Lenses?	Jun	10
***TMF* Features**		
Awards and Recognition		
Challenge From Charleston	Feb	24
Good Show		
Capts Rush and Blasberg	Jan	11
Capt Becker and MSgt Cardona	May	15
Capt Pewthers and Crew	Jun	22
Capt Bennett and Crew	Jul	7
Maj Merrill and Capt Macken	Oct	20
1976 MAC Safety Award Winners	May	16
1977 Flying Safety Writing Contest Winners	Jul	3
Roll of Honor	Jul	16
C.R. Terror		
C.R. Terror Meets D.R. Error	Jan	24
Crash Diet	Feb	25
C.R. vs Base Security	Mar	24
Simulated Combat	Apr	25
Human Relations Lesson	May	25
Helicopter Rescue	Jun	24
Beaches a Lightplane	Jul	25
Ham Hand Strikes Again	Aug	24
Big MAC vs Little MAC	Sep	24
Gross Weight Guessing	Oct	25
Loses to a Cold	Nov	25
C.R. Terrier	Dec	24
Deja Vu		
Anderson AFB, Guam	Nov	24
Ascension Island	Oct	24
General Lyman Field, Hawaii	Jul	24
Guantanamo Bay, Cuba	Dec	20
Indian Mountain, Alaska	Aug	23
NAS Norfolk, Virginia	Jun	23
Pago Pago, American Samoa	May	24
Sondrestrom, Greendland	Sep	23
Mishaps with a Moral		
No Margin for Error	Jun	7
The Missing Ingredient	Sep	10
The $30 Million Birdstrike	Oct	10
Over the Beacon at Gambell	Mar	11
Caught in Winter's Trap	Dec	18
The Flying Circus	Jun	16
	Oct	12
The Sage Brush		
Helicopter Pilots are Different	Jul	21
Aggressor C-5	Sep	22
The Pilot Image	Oct	14
BX Tanker	Nov	23
Aircrew Christmas	Dec	21
Weather		
Cold Weather Quiz	Nov	8
Everything's Up-to-Date in Kansas City	Jan	18
Storm Warning	Apr	16
Touchdown: 600 Feet Above Minimums	Jun	4
When Lightning Strikes Twice	Jul	11
Caught in Winter's Trap	Dec	18
Miscellaneous		
The Airlift Legacy (C-124)	Nov	16
Sweptwing Shadow	Dec	16
Tell Us Like It Is!	Aug	14
The Tower of Babble	Nov	6

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